

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

ORAL ARGUMENT REQUESTED

**MEMORANDUM OF LAW IN SUPPORT OF
PLAINTIFF'S MOTION FOR PARTIAL SUMMARY JUDGMENT OF
NO INVALIDITY UNDER 35 U.S.C. § 101**

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Plaintiff, Singular Computing LLC (“Singular”), respectfully submits this memorandum of law in support of its motion for partial summary judgment of no invalidity under 35 U.S.C.

101. For the reasons set forth herein, Singular requests that the motion be granted.

I. BACKGROUND

Singular filed the original complaint in this case on December 20, 2019. Dkt. No. 1. The complaint alleged infringement of three patents: U.S. Patent Nos. 8,407,273; 9,218,156 (“the ’156 patent”) and 10,416,961 (“the ’961 patent”). *Id.* Singular filed an amended complaint on March 20, 2020, alleging infringement of the same three patents. Dkt. No. 37.¹ On April 17, 2020, Google filed a motion to dismiss the Amended Complaint for failure to state a claim, arguing that the claims of the patents-in-suit are directed to unpatentable subject matter under 35 U.S.C. § 101. *See* Dkt. No. 40 (“101 Motion”). After briefing and a hearing, the Court denied that motion. *See* Dkt. No. 51 (“101 Order”). Singular now moves for partial summary judgment that the asserted claims are not invalid under Section 101. More particularly, Singular moves for summary judgment that the asserted claims are not directed to an abstract idea under Step 1 of the *Alice* test for validity under Section 101. Accordingly, the Court may grant summary judgment as a matter of law without having to address Step 2. *See, e.g., CardioNet, LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1371 (Fed. Cir. 2020), *cert. denied*, 141 S. Ct. 1266 (2021).

II. LEGAL STANDARDS

Pursuant to Fed. R. Civ. P. 56, courts “shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986). The

¹ The ’961 patent is no longer asserted in this case. The remaining asserted claims are claim 53 of the ’273 patent and claim 7 of the ’156 patent.

moving party bears the initial burden of informing the court of the basis for its belief that there is no genuine issue for trial.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). The burden then shifts to the nonmovant to establish that there is a genuine issue of material fact. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586-87 (1986). The party challenging validity has the burden of proving patent ineligibility by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 95 (2011).

A claim of a patent is invalid if it is not directed to patent eligible subject matter pursuant to 35 U.S.C. § 101. Section 101 provides that a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has held that the statutory definition of patent-eligible subject matter includes an implicit exception for laws of nature, natural phenomena, and abstract ideas. *See Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). Laws of nature, natural phenomena, and abstract ideas are not patent-eligible because they are “building blocks of human ingenuity.” *Id.* at 217.

In determining patent eligibility, courts must distinguish between patents that “claim the building blocks” and those whose claims “integrate the building blocks into something more.” *Id.* Courts must “tread carefully” lest the judicial exception “swallow all of patent law.” *Id.* It is not enough that the claims “involve” a patent-ineligible concept because “[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.* (quotation, alteration, and citation omitted).

The Supreme Court has articulated a two-step framework for determining patent eligibility. *See Alice*, 573 U.S. at 217-18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72-73, 77-79 (2012)). At Step 1, courts must determine whether the claims are

“directed to” a patent-ineligible concept, such as an abstract idea. *Id.* at 218. Step 1 of the analysis is “purely” a question of law. *See, e.g.*, If the party challenging patent eligibility fails to prevail on Step 1, then Step 2 becomes moot. *See, e.g., Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017); *see also CardioNet*, 955 F.3d at 1371.

III. ARGUMENT

Whether a claim is drawn to patent-eligible subject matter is an issue of law. *See* 101 Order (citing *Genetic Techs. Ltd. v. Merial LLC*, 818 F.3d 1369, 1373 (Fed. Cir. 2016)); *see also Trinity Info Media, LLC v. Covalent, Inc.*, 562 F. Supp. 3d 770, 785 (C.D. Cal. 2021) (Step 1 of the analysis is “purely” a question of law) (citing *CardioNet*, 955 F.3d at 1372). Early in this case, Google filed a Rule 12(b)(6) motion to dismiss the Amended Complaint, arguing that the claims of the patents-in-suit are invalid under 35 U.S.C. § 101 as being directed to patent ineligible subject matter. *See* Dkt. No. 41. The motion was fully briefed by the parties. *See* Dkt. Nos. 41-44, 47. Thereafter, following oral argument on March 31, 2021, the Court issued a Memorandum and Order denying the motion. *See* Dkt. No. 51 (“101 Order”).

In the 101 Order, the Court addressed both Step 1 and Step 2 of *Alice*. Only Step 1 is at issue with the present motion. As set forth above, if the asserted claims are not directed to an abstract idea under Step 1, the Court need not address Step 2. *Visual Memory v. NVIDIA*, 867 F.3d at 1262. Instead, the Court may grant summary judgment in favor of Singular as a matter of law. *See, e.g., Mobile Equity v. Walmart*, No. 2:21-cv-126, 2022 WL 4587565, at *3 (E.D. Tex. Sept. 8, 2022), *adopted*, 2022 WL 4587492 (E.D. Tex. Sept. 27, 2022).

In the 101 Order, the Court stated, *inter alia*, as follows regarding Step 1:

Google contends that the claims at issue are not directed to improvements in computer functionality, but rather to LPHDR arithmetic, which it summarizes as the “abstract idea of doing an arithmetic calculation with an intended degree of imprecision.”

* * *

Whether that is true raises issues of claim construction. In its view, “‘low precision’ means the execution unit is not adapted to calculate the precisely correct mathematical result every time,” and “‘high dynamic range’ means only that the execution unit can represent a relatively broad range of numbers.” But Singular proposes a narrower construction, defining “low precision” and “high dynamic range” as they are set forth in the claims with “very precise limitations.” Indeed, the claims themselves set specific parameters for what constitutes low precision and high dynamic range. For example, claim 53 of the ’273 patent sets forth particular minimum levels of precision and specifies a dynamic range “at least as wide as from 1/1,000,000 through 1,000,000. In short, the parties dispute how narrowly the claims define LPHDR arithmetic.

That dispute may affect the § 101 analysis. The Federal Circuit has held that “[i]f there are claim construction disputes at the Rule 12(b)(6) stage . . . the court must proceed by adopting the non-moving party’s constructions.” *Aatrix*, 882 F.3d at 1125. Adopting Singular’s construction of the claims would limit them to particular precision and dynamic range parameters, as opposed to the notion of LPHDR arithmetic more broadly.

Dkt. No. 51 at pp. 10-12 (citations and footnotes omitted).

At the time that it ruled on the 101 Motion, the Court had not construed any terms in either of the asserted claims. Accordingly, the Court denied the motion.² Subsequent to issuing the 101 Order, the Court conducted *Markman* proceedings and issued a Claim Construction Order (“CCO”). See Dkt. No. 354. In the CCO, the Court rejected Google’s proposed interpretation of the claimed “LPHDR execution unit”. Instead, the Court agreed with Singular that the term “low precision and high dynamic range” is “defined in the claim itself.” *Id.* Thus, contrary to Google’s urging, the Court has construed the claims to have the “very precise limitations” set forth in the asserted claims. Those limitations include, for example, a dynamic range “at least as wide as from 1/1,000,000 through 1,000,000” for “at least X=5% of the valid

² Aside from deferring deciding Step 1 until claim construction, the Court also found that the Amended Complaint alleges sufficient facts to satisfy Step 2 of the analysis. See 101 Order at pp. 15-16.

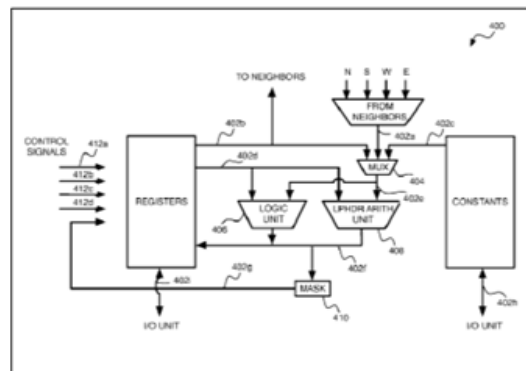
inputs,” an error rate of “at least $Y=0.05\%$ ” and “wherein the number of LPHDR execution units in the device exceeds by at least one hundred the non-negative integer number of execution units in the device adapted to execute at least the operation of multiplication on floating point numbers that are at least 32 bits wide.” *See, e.g.*, Ex. A ('273 patent) col. 32.³

Asserted claim 7 of the '156 patent contains further additional limitations, for example, a controller such as a:

CPU, graphics processing unit (GPU), field programmable gate array (FPGA), microcode-based processor, hardware sequencer, or a state machine.

See Ex. B, cols. 29-30.⁴

Finally, in the CCO, the Court referenced numerous structural circuit disclosures disclosed in the specification of the patents. For example:



'273 Patent, Fig. 4

As described in the specification, Figure 4 depicts a processing element that pairs the LPHDR arithmetic element with memory circuits—here labeled as “Registers” (for frequently changing mathematical values) and “Constants” (for values that rarely change). (*Id.* col. 10 ll. 39-42).

CCO (Dkt. No. 354), at p. 23. The Court further found that:

³ Unless otherwise noted, all exhibits are attached to the accompanying Declaration of Kevin Gannon.

⁴ Claim 7 of the '156 patent depends from claims 3, 2 and independent claim 1.

[I]t appears that a person of ordinary skill in the art reviewing the patent would conclude that the claimed “execution unit” is a “processing element comprising an arithmetic circuit paired with a memory circuit.”

Id., at p. 25. Therefore, as a matter of law, the asserted claims are not unpatentable under Section 101 and the Court may grant Singular’s motion. *CardioNet*, 955 F.3d at 1371; *see also Mobile Equity v. Walmart*, 2022 WL 4587565, at *8, *adopted*, 2022 WL 4587492.

IV. CONCLUSION

For the reasons set forth above, Singular requests that the Court enter partial summary judgment that the asserted claims of the patents-in-suit are not invalid under 35 U.S.C. § 101.

Dated: April 28, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on April 28, 2023, all counsel of record who have consented to electronic service are being served with a copy of this document via the Court’s CM/ECF system.

/s/ Paul J. Hayes